

Appl. No. 10/815,357
Amdt. Dated June 30, 2006
Reply to Office action of March 15, 2006

REMARKS/ARGUMENTS

This response is being submitted in response to the Office Action dated March 15, 2006.

Claims 1-4, 6, 12-14, 17-21, 23 and 24 were rejected under 35 USC §102 (a) as being anticipated by Ruzga et al. (US Patent Number 6,710,350, hereinafter "Ruzga"). Claims 1-5, 13-16, 19-21, 23-25 were rejected under 35 USC §102 (a) as being anticipated by Karellas (US Patent Number 6,710,350, hereinafter "Karellas"). Claims 6-9 were rejected under 35 USC §103 (a) as being unpatentable over Ruzga in view of Gross et al. (US Patent Number 6,310,352, hereinafter "Gross"). Claims 6-9 were rejected under 35 USC §103 (a) as being unpatentable over Karellas in view of Gross. Claims 10 and 11 were rejected under 35 USC §103 (a) as being unpatentable over Ruzga in view of Applicant's Admitted Prior Art. Claim 22 is rejected under 35 USC §103 (a) as being unpatentable over Karellas in view of Pandelisev (US Patent Application Number 2002/0117625, hereinafter "Pandelisev"). Claims 1, 3, 4, 5, 6, 19 and 21 have been amended. No new matter has been added. Claims 6 and 17 have been canceled. Claims 1-5, 7-16, 18-25 remain pending in this application. Reconsideration in view of the above amendments and following remarks is respectfully requested.

Claims 1, 3-5, 19 and 21 were objected to due to certain informalities. Applicants respectfully submit that claims 1, 3-5, 19 and 21 have been amended to correct the informalities pointed out by the Examiner. Thus, it is respectfully requested that the objection of claims 1, 3-5, 19 and 21 be withdrawn.

Claims allowable over the prior art

Claims 1-4, 6, 12-14, 17-21, 23 and 24 were rejected under 35 USC §102 (a) as being anticipated by Ruzga et al. Claims 1-5, 13-16, 19-21, 23-25 were rejected under 35 USC §102 (a) as being anticipated by Karellas. The present invention, as claimed in independent claims 1, 13 and 19 is patentable over Ruzga and Karellas. "Anticipation requires the disclosure in a single prior art reference of each element of the claim under consideration." *W.L. Gore & Associates v. Garlock, Inc.*, 220 USPQ 303, 313 (Fed. Cir. 1983). Neither Ruzga nor Karellas disclose each and every element of the present invention as claimed in independent claims 1, 13 and 19.

Claim 1 recites a radiation imaging system for generating an image of an object. The imaging system comprises an X-ray source disposed in a spatial relationship to the object configured to transmit X-ray radiation through the object, at least one X-ray detecting media configured to convert the X-ray radiation transmitted through the object to optical signals, a modulator configured for modulating the optical signals, an optical transmission conduit comprising a first end and a second end and an optical detector configured to convert optical

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signals to corresponding electrical signals. The first end of the optical transmission conduit is coupled to the at least one X-ray detecting media and the second end is coupled to the optical detector.

Claim 13 recites a method for generating an image of an object comprising transmitting X-ray radiation through the object at a predetermined location, converting the X-ray radiation transmitted through the object to optical signals, modulating the optical signals, providing an optical transmission path for optical signals to an optical detector, converting the optical signals to corresponding electrical signals; and processing the electrical signals to generate the image.

Claim 19 recites a computer tomography (CT) system for generating an image of an object comprising an X-ray source configured to emit a stream of radiation, at least one X-ray detecting media configured to convert the X-ray radiation transmitted through the object to optical signals, a modulator configured for modulating the optical signals, an optical transmission conduit comprising a first end and a second end and an optical detector configured to convert optical signals to corresponding electrical signals; and wherein the first end of the optical transmission conduit is coupled to the at least one X-ray detecting media and the second end is coupled to the optical detector via the modulator.

Ruzga does not teach or disclose each and every element of claims 1, 13 and 19. Specifically, Ruzga does not teach, suggest or disclose a modulator configured for modulating the optical signals as discussed in claims 1, 13 and 19. The Office Action states that the modulator can be compared to the mirrors 58 and gating elements 78 disclosed in Ruzga. Applicant respectfully disagrees. Ruzga merely discloses the use of steerable mirrors to reflect light emitted by the scintillator towards the sidewall of the housing (column 4, lines 53-55). Similarly, the gating elements are used for directing light from a selected detection site through the routing matrix (column 6, lines 30-35). Both the steerable mirrors and the gating elements cannot be compared to a modulator. The modulator is configured to perform various operations on the optical signals thus modifying the optical signals (paragraphs 30 and 31). Neither the steerable mirrors nor the gating elements are configured to modify the optical signals but instead provide a means for directing the signals.

Karellas does not teach or disclose each and every element of claims 1, 13 and 19. Specifically, Karellas does not teach, suggest or disclose a modulator configured for modulating the optical signals as discussed in claims 1, 13 and 19. The Office Action clearly states in Page 9, section 8, that Karellas does not teach, suggest or disclose the modulator as described in claims 1, 13 and 19.

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Therefore, the present invention as claimed in independent claims 1, 13 and 19 and claims depending therefrom, are not anticipated by Ruzga or Karellas. Thus, it is respectfully requested that the rejection of claims 1-6, 12-17, 19-21 and 23-25 under 35 USC §102 (b) be withdrawn.

Claims 6-9 were rejected under 35 USC §103 (a) as being unpatentable over Ruzga in view of Gross. Claims 6-9 were also rejected under 35 USC §103 (a) as being unpatentable over Karellas in view of Gross. Applicants respectfully submit that claim 6 has been canceled and claims 7-9 now depend directly or indirectly from claim 1. Both Ruzga and Karellas do not teach, suggest or disclose the modulator configured for modulating the optical signals as discussed in claims 1, 13 and 19. Gross does not overcome the deficiencies of Ruzga and Karellas. Gross merely discusses the use of an optical amplifier versus an electrical amplifier for amplification of very weak signals. The amplifier disclosed by Gross also must have the unique ability to block gamma rays (column 9, lines 20-30). Such a device cannot be compared to a modulator as discussed in claim 1.

Thus, no reasonable combination Ruzga or Karellas with Gross would obtain Applicant's recited invention of a radiation imaging system for transmitting modulated optical signals through an optical conduit from an X-ray detecting media to an optical detector as described in claim 1.

Further there is no motivation in Ruzga or Karellas to combine it with Gross. Both Ruzga and Karellas do not teach, suggest or disclose the use of modulators while Gross teaches using optical amplifiers. Therefore, Ruzga or Karellas (either alone or in combination with Gross) does not teach, suggest or disclose Applicants' invention as cited in claim 1.

Obviousness cannot be established absent a teaching or suggestion in the prior art to produce the claimed invention. For a prima facie case of obviousness, the Examiner must set forth the differences in the claim over the applied references, set forth the proposed modification of the references, which would be necessary to arrive at the claimed subject matter, and explain why the proposed modification would be obvious. It is well-established law that the mere fact that references may be combined or modified does not render the resultant modification or combination obvious unless the prior art suggests the desirability of the modification or combination.

Therefore, the present invention, as claimed in independent claim 1 is patentable over Ruzga and Karellas in view of Gross. Accordingly, Applicants submit that claims 7-9 are allowable by dependency. Thus, it is respectfully requested that the rejection of claims 7-9 under 35 USC §103(a) be withdrawn.

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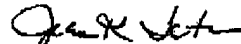
Claims 10 and 11 were rejected under 35 USC §103 (a) as being unpatentable over Ruzga in view of Applicant's Admitted Prior Art. Claim 22 is rejected under 35 USC §103 (a) as being unpatentable over Karellas in view of Pandelisev.

The claims rejected under this section depend directly or indirectly from independent claims 1 and 19. Neither Ruzga nor Karellas is believed to teach, suggest or disclose each and every element of independent claims 1 and 19. Consequently, claims 10, 11 and 22 are believed to be patentable both by virtue of its dependency from an allowable base claim, as well as for the subject matter it separately recites. Reconsideration and allowance of dependent claim 10, 11 and 22 on this basis are requested.

In view of the foregoing amendment and for the reasons set out above, Applicants respectfully submit that the application is in condition for allowance. Favorable reconsideration and prompt allowance of the application are respectfully requested.

Should the Examiner believe that anything further is needed to place the application in condition for allowance, the Examiner is requested to contact Applicants' undersigned representative at the telephone number below.

Respectfully submitted,



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Attachment: Petition for extension of time